

**Meeting of the Central Valley Flood Protection Board
May 20, 2016**

**Staff Report – Encroachment Permit
California Department of Transportation
Centennial Corridor Project, Kern County**

1.0 – ITEM

Consider approval of Permit No. 18571-1 (Attachment B).

2.0 – APPLICANT

California Department of Transportation

3.0 – LOCATION

The project is located at the existing eastbound (EB) Westside Parkway Bridge near Truxtun Avenue in the City of Bakersfield (Attachment A).

4.0 – PROJECT DESCRIPTION

To widen the existing EB Westside Parkway Bridge (Bridge No. 50C-0357S) by adding seven (7) new 5-foot diameter columns at each existing bent (for a total of 10 columns at each bent). The 680-foot long, 200-foot wide bridge spans the Kern River Designated Floodway (DF).

5.0 – AUTHORITY OF THE BOARD

California Water Code § 8534, 8590 – 8610.5, and 8700 – 8710

California Code of Regulations (CCR), Title 23 (Title 23):

- § 6, Need for a Permit
- § 13, Evidentiary Hearings

- § 107, Permitted Uses in Designated Floodways
- § 108, Existing Encroachments
- § 112, Streams Regulated and Nonpermissible Work Periods
- § 128, Bridges

6.0 – PROJECT ANALYSIS

The proposed widening of EB Westside Parkway Bridge is part of the Centennial Corridor Project. The purpose of the Centennial Corridor project is to provide route continuity and associated traffic congestion relief along State Route 58 from Cottonwood Road to Interstate 5 within the City of Bakersfield.

The Centennial Corridor Project includes three features that will encroach into the Kern River DF: a new petroleum oil pipeline, a new Kern River Bridge (Bridge No. 50C-0357J), and the widening of the existing EB Westside Parkway Bridge (Bridge No. 50C-0357S). The features have been divided into three separate permit applications to simplify the review process and to better track future modifications to these features. The oil pipeline has been assigned 19074, the new Kern River Bridge has been assigned 19077, and the widening of EB Westside Parkway Bridge has been assigned 18571-1.

The City of Bakersfield, in cooperation with the California Department of Transportation, is proposing to widen the EB Westside Parkway Bridge (Permit No. 18571-1) to accommodate additional eastbound and westbound traffic between Truxtun Avenue and Mohawk Street. The existing EB Westside Parkway Bridge structure will be a six (6) span structure with open-end seat type abutments, cantilever wingwalls, and comprise of 10 columns at each existing bent (Attachment C). The project area includes the Kern River, which is a regulated stream per Title 23, and the Kern River DF. There are no Federal flood risk reduction project levees or channels involved. The proposed work complies with all applicable Title 23 standards.

6.1 – Hydraulic Analysis

A one dimensional hydraulic model was done for the 100-year (15,000 cfs) design flow for the Kern River DF using the USACE Hydrologic Engineering Center's River Analysis System (HEC-RAS). The model was used to analyze the hydraulic impacts for existing

and post project conditions. The HEC-RAS analysis showed all computed water surface elevation (WSE) changes due to the widening of the existing EB Westside Parkway Bridge and construction of the new Kern River Bridge are negligible with a slight increase of 0.07-feet upstream of the two bridges. The EB Westside Parkway Bridge will have a minimum freeboard of 25-feet above the FEMA 100-year WSE.

Falsework will be required for the EB Westside Parkway Bridge widening and the new Kern River Bridge construction which will remain in place during the flood season. The falsework will result in an increase in WSE of approximately 0.5-feet upstream of both bridges; however, the flood water will still be confined within the Kern River DF boundaries (Attachment D).

Based on Board staff's review, the proposed project is expected to result in no significant adverse hydraulic impacts to the Kern River DF.

6.2 – Geotechnical Analysis

The proposed project is not associated with levees; therefore, a geotechnical analysis was not required.

7.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- City of Bakersfield Water Resources Department endorsed the project on September 23, 2015 with no conditions.
- The U.S. Army Corps of Engineers 33 USC 408 decision letter has been received for this application. The Sacramento District of the USACE has determined that the proposed work does not affect a Federally constructed project, however, the USACE recommended that the City of Bakersfield ensure that channel can pass flows of 8,000 cubic feet per second as listed in operation and maintenance manual for the Kern River Intertie Project which is a Federally constructed project downstream of Bakersfield. The letter is incorporated into the permit as Exhibit A.

8.0 – CEQA ANALYSIS

Board staff has prepared the following California Environmental Quality Act (CEQA)

findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Centennial Corridor Project Draft Environmental Impact Report (DEIR) (SCH No. 2008091102, May 2014) and Final Environmental Impact Report (FEIR) (SCH No. 2008091102, December 2015) and Mitigation Monitoring and Reporting Plan (MMRP) submitted by the lead agency Department of Transportation (Caltrans (incorporated herein by reference) . These documents, including project design and the MMRP, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2016/05-20-2016.cfm> under a link for this agenda item. The documents are also available for review in hard copy at the Board and Caltrans offices.

Caltrans, as the lead agency, determined that the project described in the FEIR would have a significant effect on the environment on December 9, 2015 (including Findings, Impacts and Mitigation Measures, Statement of Overriding Considerations) and filed a Notice of Determination with the State Clearinghouse on December 10, 2015. Based on its independent review of the FEIR, the Board finds that although the proposed project could have a potentially significant effect on the environment, revisions have been made to the project and/or agreed to by the project proponent that reduce the environmental impacts to less than significant. The Board finds that there are no direct or indirect environmental effects of the bridge work which have not been previously addressed by the DEIR or the FEIR. Caltrans found that significant and unavoidable impacts may occur from aesthetics, land use and planning, and noise, however these impacts are not related to the proposed bridge described above. Pursuant to CEQA, the Board as a responsible agency is responsible for mitigating and avoiding only the direct and indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve [CEQA Guidelines Section 15096(g); Public Resources Code § 21002.1(d)].

The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. Moreover, such changes or alterations are within the responsibility and jurisdictions of another public agency, Caltrans, and such changes have been adopted by that agency. These mitigation measures are included in the project proponent's FEIR and address impacts to biological resources, hazards, cultural resources, and public services. The description of the mitigation measures are further described in the certified FEIR.

The documents and other materials which constitute the record of the Board's proceedings in this matter are in the custody of Leslie Gallagher, Executive Officer, Central Valley Flood Protection Board, 3310 El Camino Ave., Rm. 151, Sacramento, California 95821.

9.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit. On the issue of hydraulic impacts, the California Department of Transportation used HEC-RAS one-dimension flow models. These models are considered by experts as the best available scientific tools for the purpose of modeling river hydraulics in the region.

3. Effects of the decision on facilities of the State Plan of Flood Control, and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

The proposed bridge is expected to result in no adverse hydraulic effects on the facilities of the SPFC since the Kern River is not connected to the SPFC and the bridge is located outside of the CVFPP study area.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

The proposed bridge widening section will be constructed consistent with the existing bridge and will have an approximate freeboard of 25-feet between the FEMA 100-year WSE and the bottom of the bridge; therefore, there are no expected adverse effects to the proposed project from reasonable projected future events.

10.0 – STAFF RECOMMENDATION

Staff recommends that the Board:

Adopt:

- The CEQA findings;

Approve:

- Draft Encroachment Permit No. 18571-1, in substantially the form provided and;

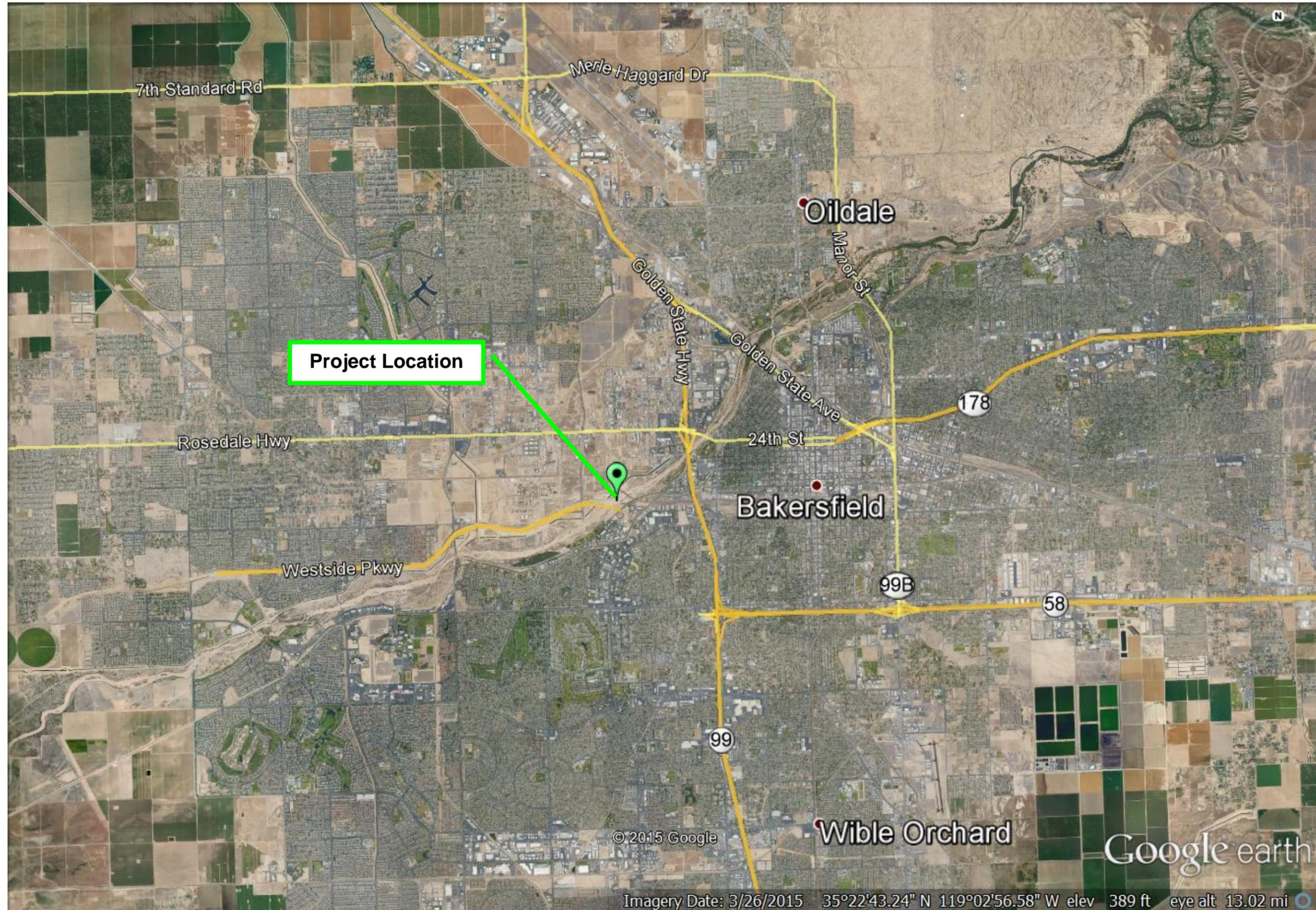
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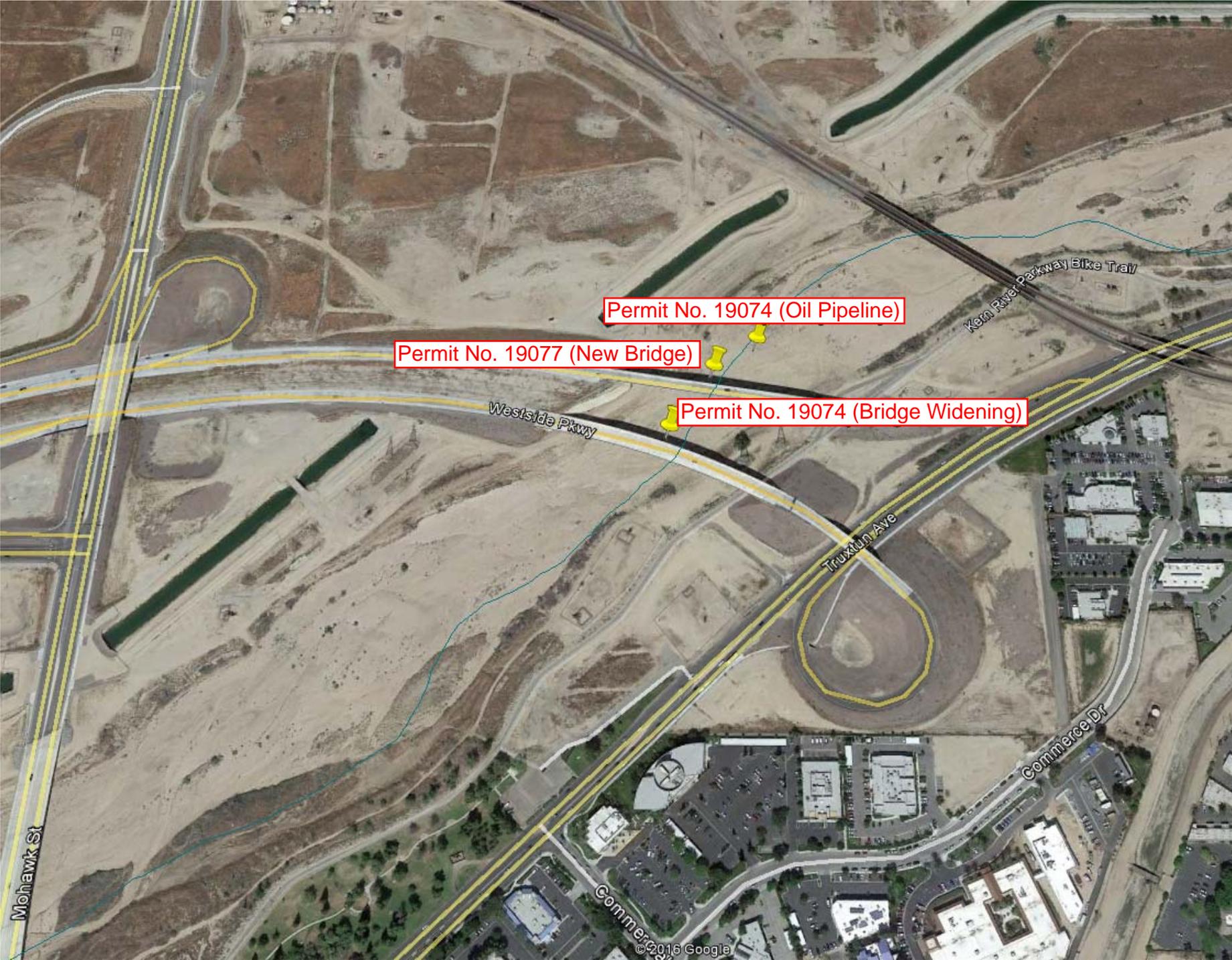
- The Executive Officer to take the necessary actions to execute the permit and file a Notice of Determination pursuant to CEQA with the State Clearinghouse.

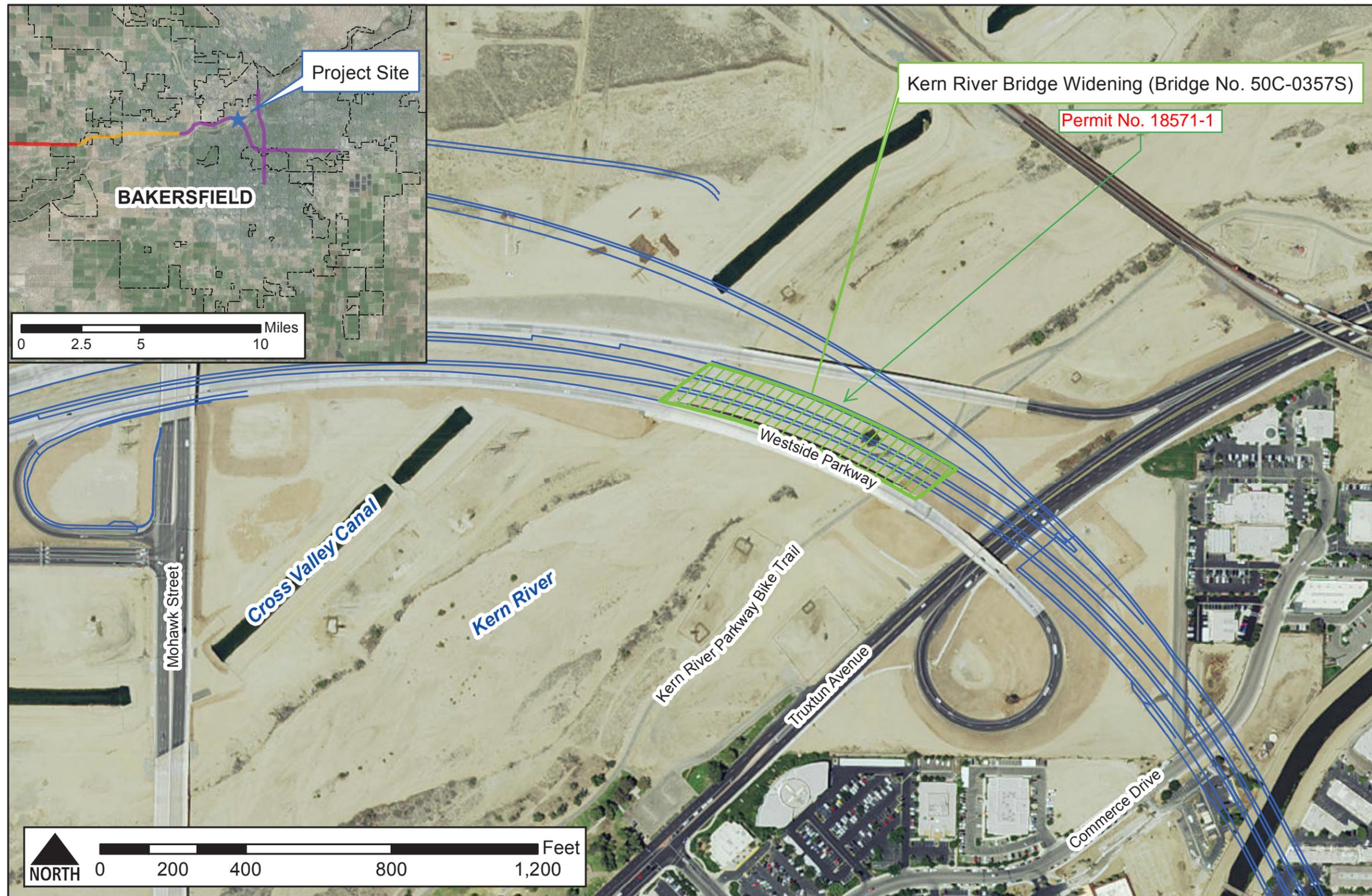
11.0 – LIST OF ATTACHMENTS

- A. Location Maps and Photos
- B. Draft Permit No. 18571-1
- C. Construction Plans
- D. Hydraulic Report

Design Review:	Mike Thao, Permitting Staff
Environmental Review:	James Herota, Senior Environmental Scientist (Specialist)
Document Review:	Gary W. Lemon, P.E. Permitting Section Chief
	Mitra Emami, P.E. Operations Branch Chief
Legal Review:	Kanwarjit Dua, Board Counsel







Data Source: Parsons 2015 Created On: 10/22/2015

Legend

- ★ Project Location
- Segment 1
- Segment 2
- Segment 3
- Project Alignment
- Bakersfield City Limits

Kern River Bridge Widening

Centennial Corridor Project
Site Location and Vicinity

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #1 Facing northeast toward Kern River and Westside Parkway (June 30, 2015)

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #2 Facing southwest toward Kern River, Westside Parkway, and Truxtun Avenue (June 30, 2015)

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #3 Facing north toward Kern River between Westside Parkway bridges (July 17, 2015)

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #4 Facing northwest toward Kern River, east of Westside Parkway bridge (July 17, 2015)

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #5 Facing northwest toward Kern River, east of Westside Parkway bridge (July 17, 2015)

**CENTENNIAL CORRIDOR PROJECT
Kern River Site Photos**



Photo #6 Facing south toward Kern River, east of Westside Parkway bridge (July 17, 2015)

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18571-1 BD

This Permit is issued to:

California Department of Transportation (Caltrans)
2015 East Shields Avenue, Suite 100
Fresno, California 93726

To widen the existing Westside Parkway Bridge (eastbound) over the Kern River by approximately 140-feet. The new bridge section will be approximately 680-feet long and comprise of box girders with two abutments, cantilever wingwalls, and seven new 5-foot diameter columns at each bent (for a total of 10 columns at each bent).

The project is located on the Westside Parkway near Truxtun Avenue in the City of Bakersfield. (Section 27, T29S, R27E, MDB&M, City of Bakersfield Water Resources Dept., Kern River, Kern County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

Attachment B

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18571-1 BD

THIRTEEN: Permit No. 18571-1 supersedes Permit No. 18571 which is attached as Exhibit B.

LIABILITY AND INDEMNIFICATION

FOURTEEN: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board, the Department of Water Resources, and their respective officers, agents, employees, successors and assigns, safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The Central Valley Flood Control Board and the Department of Water Resources expressly reserve the right to supplement or take over their defense, in their sole discretion.

FIFTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the "State," safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

SIXTEEN: The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for any damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

AGENCY CONDITIONS

SEVENTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1 to July 15 without prior approval of the Central Valley Flood Protection Board.

NINETEEN: The permittee shall comply with all conditions set forth in the letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated April 18, 2016, which is attached to this permit as Exhibit C and is incorporated by reference.

TWENTY: Permittee shall pay to the CVFPB, an inspection fee to cover inspection cost(s), including staff and/or consultant time and expenses, for any inspections before, during, post-construction, and regularly thereafter as deemed necessary by the CVFPB.

PRE-CONSTRUCTION

TWENTY-ONE: Upon receipt of a signed copy of the issued permit the permittee shall contact the Central Valley Flood Protection Board by telephone at (916) 574-0609, and submit the enclosed postcard, to schedule a preconstruction conference with the inspector that is assigned to your project. Failure to do so at least 10 working days prior to start of work may result in a delay of the project.

CONSTRUCTION

TWENTY-TWO: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-THREE: The bridge piers and bents placed within the Kern River Designated Floodway shall be constructed parallel to the direction of flow.

TWENTY-FOUR: Bridge piers and bents placed within the floodway to support a widened portion of an existing bridge shall be constructed in line with the existing bents and piers.

TWENTY-FIVE: Drainage from the bridge or highway shall not be discharged onto the banks of the Kern River.

TWENTY-SIX: Temporary staging, stockpiled material, and equipment shall not remain in the floodway during the flood season from November 1 to July 15.

TWENTY-SEVEN: The abandoned or dismantled bridge shall be completely removed and disposed of outside the limits of the levee section and floodway.

TWENTY-EIGHT: Piers, bents, and abutments being dismantled shall be removed to at least 1 foot

below the natural ground line and at least 3 feet below the bottom of the low-water channel.

TWENTY-NINE: If the bridge is damaged to the extent that it may impair the channel or floodway capacity, it shall be repaired or removed prior to the next flood season.

THIRTY: Trees, brush, sediment, and other debris shall be kept cleared from the bridge site and disposed of outside the floodway to maintain the design flow capacity and flowage area.

POST-CONSTRUCTION

THIRTY-ONE: All debris generated by this project shall be disposed of outside the floodway.

THIRTY-TWO: The work area shall be restored to at least the condition that existed prior to commencement of work.

OPERATIONS AND MAINTENANCE

THIRTY-THREE: After each period of high water, debris that accumulates at the site shall be completely removed from the floodway.

THIRTY-FOUR: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Central Valley Flood Protection Board, the Department of Water Resources, or any other agency responsible for maintenance.

PROJECT ABANDONMENT / CHANGE IN PLAN OF FLOOD CONTROL

THIRTY-FIVE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board at the permittee's or successor's cost and expense.

THIRTY-SIX: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if in the discretion of the Central Valley Flood Protection Board the removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if the Project is not maintained or is damaged by any cause. If the permittee does not comply, or in the event of an emergency, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

END OF CONDITIONS

Attachment B - Exhibit A



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

April 19, 2010

Flood Protection and Navigation Section (18571)

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue Room LL40
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by the City of Bakersfield (application number 18571). This project includes constructing two bridges across the Kern River floodway. The proposed project is located Bakersfield, along Truxtun Avenue at 35.3706°N 119.0608°W NAD83, in Kern County, California.

The proposed work does not affect a Federally constructed project, however, according to the Kern River Intertie Operation and Maintenance Manual, page 15, section 2, the capacity of the channels that existed prior to the construction of the Intertie Project is required for the Intertie project to function effectively. The channel capacity of the Kern River through Bakersfield was estimated at 8,000 cfs as shown in Table 1, Estimated Channel Capacities. This proposed project shall not affect the ability of the channel to pass the 8,000 cfs. In addition, the Kern River, through the city of Bakersfield, is in the Rehabilitation and Inspection Program (RIP) of the U.S. Army Corps of Engineers, as a Non-Federal Project, and it is suggested that independent geotechnical and hydraulic engineers review this project to ensure that there are no negative impacts to the Non-Federal flood control project. We recommend that the City of Bakersfield ensure that this project does not impact the City's ability to participate in the National Flood Insurance Program (NFIP).

A Section 404 permit (SPK-2009-00824) has been issued for this work.

A copy of this letter is being furnished to the acting chief of the Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,

A handwritten signature in black ink, appearing to read "Megan G. Nagy".

Meegan G. Nagy, P.E.
Chief, Flood Protection and Navigation Section

Attachment B - Exhibit B

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18571 BD

This Permit is issued to:

City of Bakersfield
900 Truxtun Avenue, Suite 200
c/o Luis Topete
Bakersfield, California 93301

To construct three bridges, (773-feet long, 39-feet wide; 687-feet-long, 53-feet-wide; and 133-feet-long, 42-feet-wide) two bridges across the channel of the Kern River and a third to direct eastbound traffic over Truxtun Avenue. The project is located in Bakersfield along Truxtun Avenue (Section 26&27, T29S, R27E, MDB&M, City of Bakersfield Water Resources Dept., Kern River, Kern County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

APR 28 2010

Dated: _____



Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

Attachment B - Exhibit B

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18571 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

FIFTEEN: The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

SIXTEEN: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board. A professional engineer registered in the State of California shall certify that all work was inspected and performed in accordance with submitted drawings, specifications, and permit conditions.

SEVENTEEN: The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for any damages to the permitted encroachment(s) within the Kern River Designated Floodway resulting from flood fight, operation, maintenance, inspection, or emergency repair.

EIGHTEEN: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central

Attachment B - Exhibit B

Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

NINETEEN: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

TWENTY: The permittee shall be responsible for repair of any damages to the Kern River Designated Floodway and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY-ONE: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith.

TWENTY-TWO: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-THREE: No construction work of any kind shall be done during the flood season from November 1 to July 15 without prior approval of the Central Valley Flood Protection Board.

TWENTY-FOUR: All cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to July 15.

TWENTY-FIVE: Bridge piers and bents placed within the Kern River Designated Floodway to support the new bridge shall be constructed parallel to the direction of flow.

TWENTY-SIX: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the Kern River Designated Floodway during the flood season from November 1 to July 15 without written approval from the Central Valley Flood Protection Board.

TWENTY-SEVEN: Drainage from the bridges or highways shall not be discharged onto the banks of the Kern River.

TWENTY-EIGHT: All fencing, gates and signs removed during construction of this project shall be replaced in kind and at the original locations. If it is necessary to relocate any fence, gate or sign, the permittee is required to obtain written approval from the Central Valley Flood Protection Board prior to installation at a new location.

TWENTY-NINE: All temporary fencing, gates and signs shall be removed upon completion of the project.

THIRTY: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

THIRTY-ONE: All debris generated by this project shall be disposed of outside the Kern River

Attachment B - Exhibit B

Designated Floodway.

THIRTY-TWO: The Kern River Designated Floodway shall be restored to at least the condition that existed prior to start of work.

THIRTY-THREE: Trees, brush, sediment, and other debris shall be kept cleared from the bridge sites and disposed of outside the floodway to maintain the design flow capacity and flowage area.

THIRTY-FOUR: If the permitted encroachments result(s) in an adverse hydraulic impact within the Kern River Designated Floodway, the permittee shall provide appropriate mitigation measures, to be approved in writing by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

THIRTY-FIVE: Upon completion of the project, the permittee shall submit as-built drawings to: Department of Water Resources, Flood Project Inspection Section, 3310 El Camino Avenue, Suite LL30, Sacramento, California 95821.

THIRTY-SIX: The letter from the Department of the Army dated April 19, 2010, attached to this permit as Exhibit A is in reference to this project.

Attachment B - Exhibit C



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

Flood Protection and Navigation Section (18571-1)

APR 18 2016

Ms. Leslie M. Gallagher, Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

Dear Ms. Gallagher:

We have reviewed permit application 18571-1 submitted by the California Department of Transportation. This project includes widening the existing eastbound Westside Parkway Bridge over the Kern River by approximately 140-feet. The new bridge section will be approximately 680-feet long and will be comprised of box girders, two abutments, cantilever wingwalls, and seven new 5-foot diameter columns at each bent. The project is located on the Westside Parkway near Truxtun Avenue, in Bakersfield, at 35.370756°N 119.059574°W NAD83, Kern County, CA.

The proposed work does not affect a Federally constructed project, however, according to the Kern River Intertie Operation and Maintenance Manual, page 15, section 2, the capacity of the channels that existed prior to the construction of the Intertie Project is required for the Intertie project to function effectively. The channel capacity of the Kern River through Bakersfield was estimated at 8,000 cfs as shown in Table 1, Estimated Channel Capacities. This proposed project shall not affect the ability of the channel to pass the 8,000 cfs.

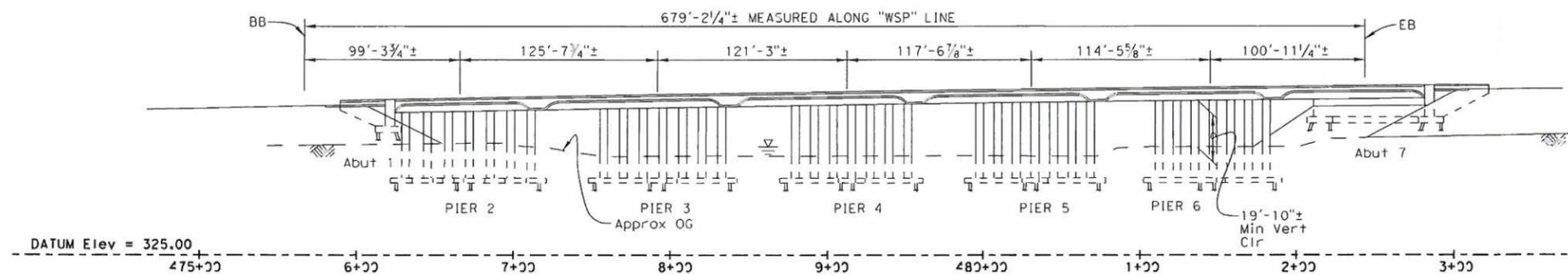
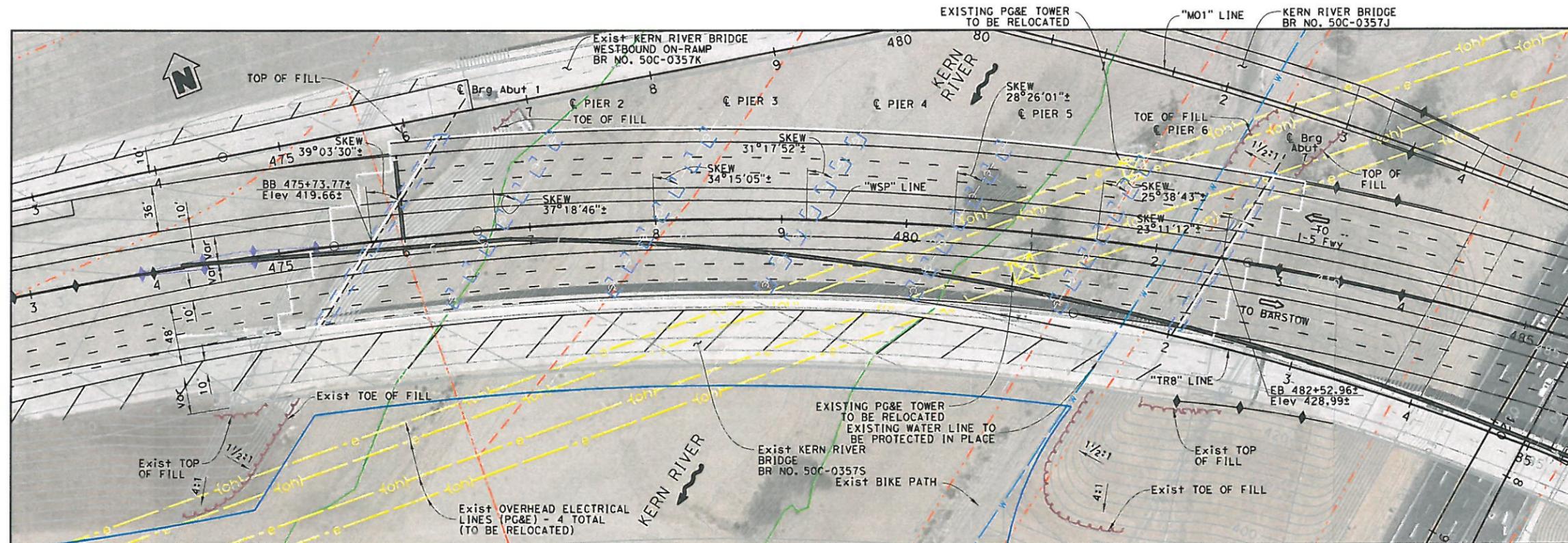
A file (SPK-2008-01813) has been opened because a Section 10 and/or Section 404 permit may be required. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, 1325 J Street, Sacramento, CA 95814, telephone (916) 557-5250.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite 200, Sacramento, CA 95821.

Sincerely,

A handwritten signature in cursive script that reads "Ryan Larson".

Ryan Larson, P.E.
Chief, Flood Protection and Navigation Section



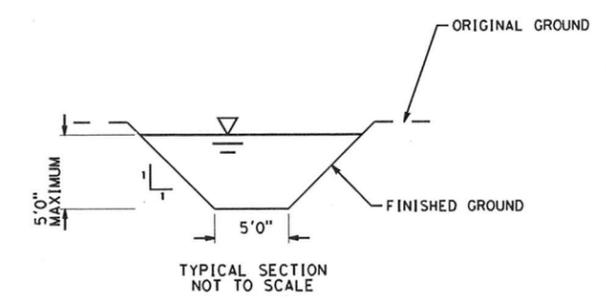
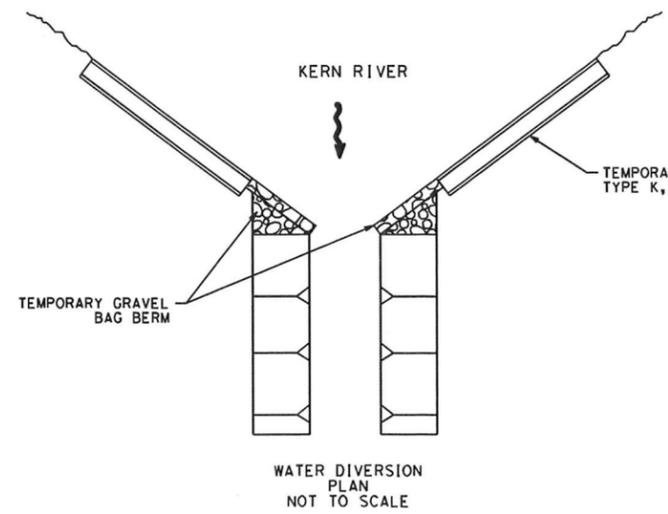
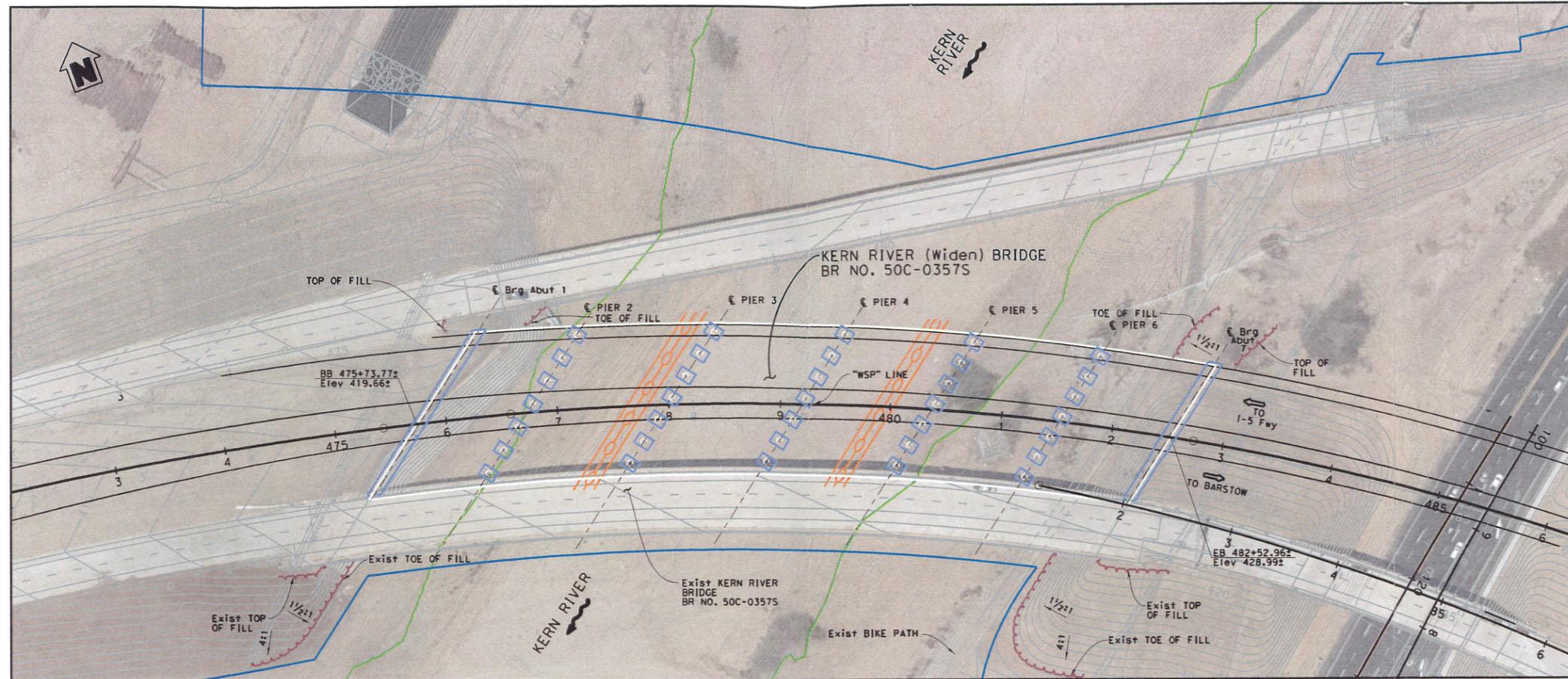
NOTE: All piles not shown.
MIRRORED ELEVATION
 1" = 40'

LEGEND

- DIRECTION OF FLOW
- CDFW JURISDICTION
- ABUTMENT & COLUMN FOUNDATION
- EXISTING OVERHEAD ELECTRICAL LINE
- EXISTING WATER LINE
- CONCRETE BARRIER
- EXISTING RIGHT OF WAY
- RIGHT OF WAY

Caltrans
 CENTENNIAL CORRIDOR
 KERN RIVER BRIDGE WIDENING
 Form 1602 Exhibit
 River Mile 121

DATE: August 7, 2015
 SCALE: 1" = 80'
 SHEET 1 OF 8



- LEGEND**
- DIRECTION OF FLOW
 - CDFW JURISDICTION
 - BRIDGE LIMITS
 - ABUTMENT & COLUMN FOUNDATION
 - WATER DIVERSION
 - RIGHT OF WAY

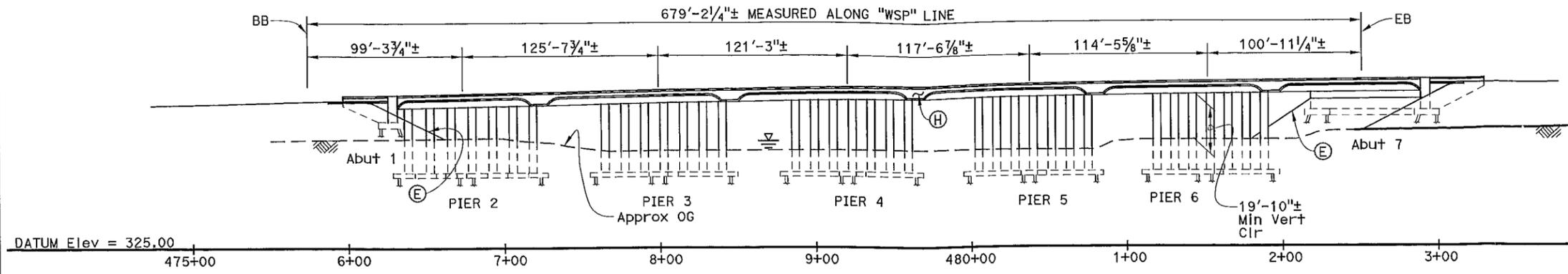
EARTHWORK QUANTITIES	
EXCAVATION (CY)	677
BACKFILL (CY)	677

Caltrans
CENTENNIAL CORRIDOR
KERN RIVER BRIDGE WIDENING
DIVERSION PLAN & DETAIL
RIVER MILE 121
 DATE: August 7, 2015
 SCALE: 1" = 100'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		
			07/01/15	REGISTERED CIVIL ENGINEER DATE	
PLANS APPROVAL DATE					
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CITY OF BAKERSFIELD
 1501 Truxtun Ave
 Bakersfield, CA 93301

PARSONS
 2201 Dupont Drive, Suite 200
 Irvine, CA 92612



DATUM Elev = 325.00

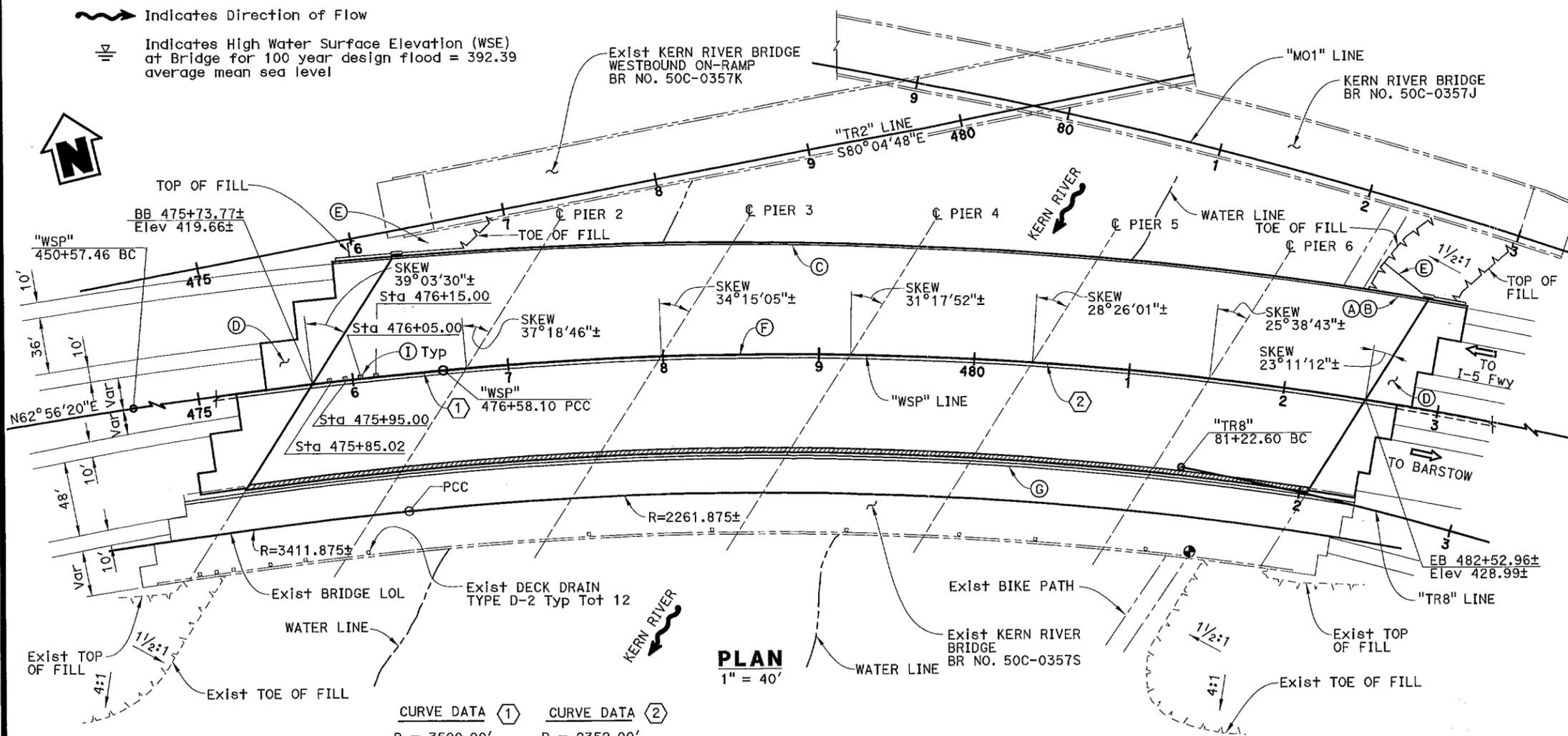
LEGEND:

- Indicates Direction of Traffic
- Indicates Point of Minimum Vertical Clearance
- ▨ Bridge Removal
- ~ Indicates Direction of Flow
- ≡ Indicates High Water Surface Elevation (WSE) at Bridge for 100 year design flood = 392.39 average mean sea level

NOTE: All piles not shown.
MIRRORED ELEVATION
 1" = 40'

QUANTITIES

TEMPORARY RAILING (TYPE K)	739 LF
REMOVED SLOPE PAVING (SQFT)	147 SQFT
REFINISH BRIDGE DECK	340 SQFT
BRIDGE REMOVAL (PORTION), LOCATION A	1 LS
STRUCTURE EXCAVATION (BRIDGE)	6082 CY
STRUCTURE BACKFILL (BRIDGE)	4955 CY
FURNISH STEEL PILING (HP 14x89)	29063 LF
DRIVE STEEL PILE (HP 14x89)	521 EA
PRESTRESSING CAST-IN-PLACE CONCRETE	1 LS
STRUCTURAL CONCRETE, BRIDGE FOOTING	947 CY
STRUCTURAL CONCRETE, BRIDGE	8896 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	326 CY
DRY STACK FIELDSTONE TEXTURE	416 SF
BRICK TEXTURE	753 SF
SANDBLAST TEXTURE	2603 SF
DRILL AND BOND DOWEL	34 LF
PTFE SPHERICAL BEARING	30 EA
JOINT SEAL ASSEMBLY (MR=6")	318 LF
BAR REINFORCING STEEL (BRIDGE)	2586705 LB
WELDED STEEL PIPE CASING (BRIDGE)	41 LF
SLOPE PAVING (CONCRETE)	124 CY
BRIDGE DECK DRAINAGE SYSTEM	3607 LB
CONCRETE BARRIER (TYPE 60A)	739 LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	739 LF



PLAN
 1" = 40'

CURVE DATA ①	CURVE DATA ②
R = 3500.00'	R = 2352.00'
Δ = 42°34'23"	Δ = 46°01'22"
T = 1363.64'	T = 998.92'
L = 2600.64'	L = 1889.24'

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

- NOTES:**
- (A) Paint "KERN RIVER BRIDGE"
 - (B) Paint "BR NO. 50C-0357S"
 - (C) Concrete Barrier Type 732 (Mod)
 - (D) Structure Approach, Type N(30S)
 - (E) Slope Paving - Full Slope
 - (F) Concrete Barrier Type 60A
 - (G) Temporary Railing (Type K), see "ROAD PLANS"
 - (H) Architectural Treatment (Westside Parkway)
 - ① Type D-1 Deck Drain, Tot 4

DESIGN BY: E. IEONG	CHECKED: G. DOUGLASS	LOAD & RESISTANCE FACTOR DESIGN BY: D. OVADIA	LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE	BRIDGE NO.: 50C-0357S	KERN RIVER BRIDGE (WIDEN) GENERAL PLAN NO. 1
DETAILS BY: A. SEGURA	CHECKED: G. DOUGLASS	LAYOUT BY: J. RUDOLPH/G. MATESIC	CHECKED: A. NOWAK	POST MILES: R50.40	
QUANTITIES BY: E. IEONG	CHECKED: M. KARLEN	SPECIFICATIONS BY: J. RUDOLPH/G. MATESIC	PLANS AND SPECS COMPARED: J. RUDOLPH/G. MATESIC	PROJECT ENGINEER: MOHSEN MOHSENI	
DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 03/14/12)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 1477	PROJECT NUMBER & PHASE: 0615000261-4	CONTRACT NO.: 48463	REVISION DATES: 01/20/13, 05/22/13, 10/08/13, 07/01/15

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 TIME: PLOT11FD => 10:38:11 AM

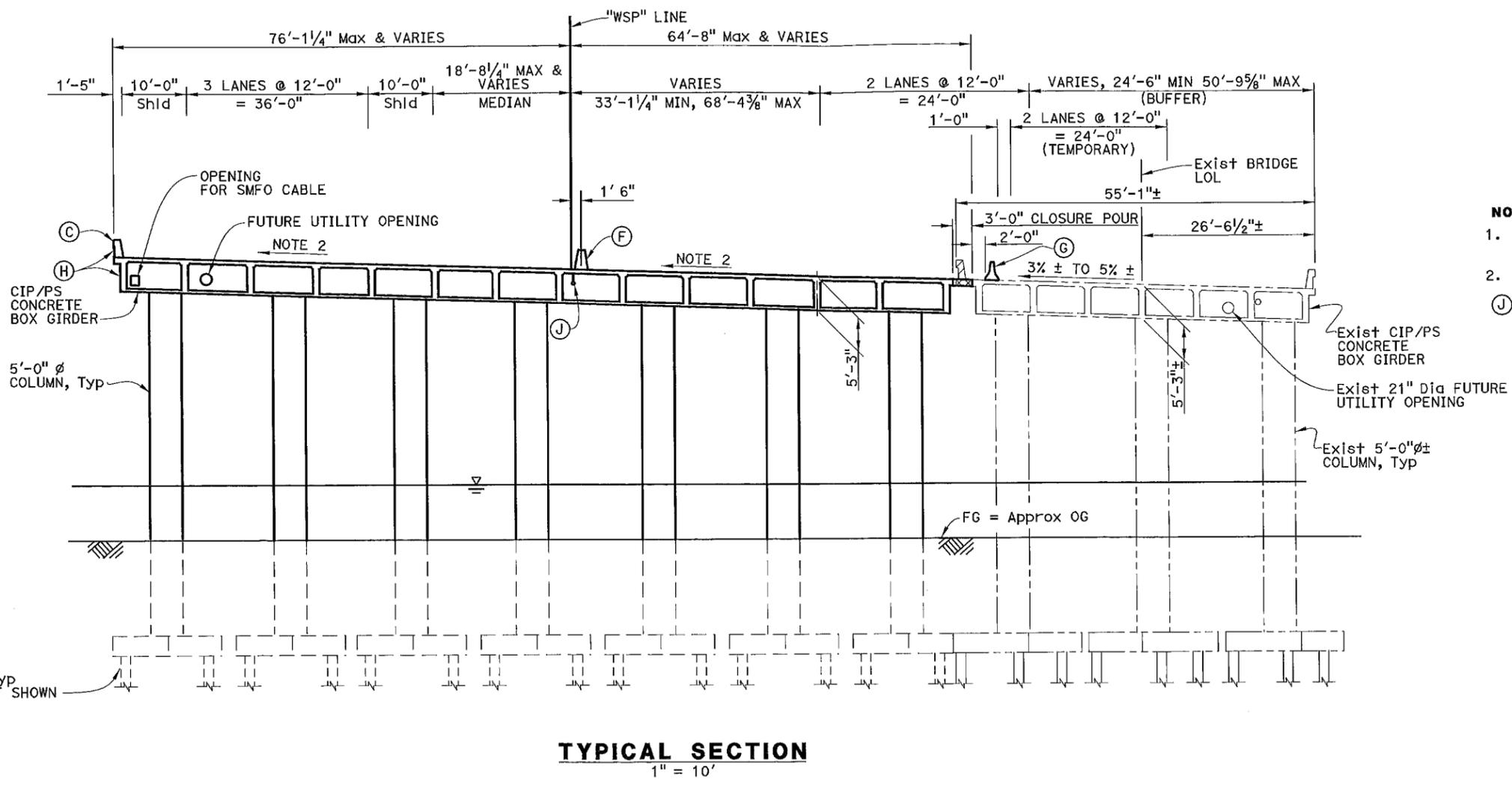
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		

REGISTERED CIVIL ENGINEER DATE 07/01/15
 E. IEONG No. 76455 Exp. 12/31/16 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE
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CITY OF BAKERSFIELD
 1501 Truxtun Ave
 Bakersfield, CA 93301

PARSONS
 2201 Dupont Drive, Suite 200
 Irvine, CA 92612



- NOTES:**
- For "NOTES" and "LEGEND", see "GENERAL PLAN NO. 1" sheet.
 - Match existing cross slope
- Ⓧ Deck Drain Pipe

TYPICAL SECTION
1" = 10'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT	DESIGN BY E. IEONG	CHECKED G. DOUGLASS	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY" PERMIT DESIGN VEHICLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 50C-0357S	KERN RIVER BRIDGE (WIDEN) GENERAL PLAN NO. 2
DETAILS	BY A. SEGURA	CHECKED G. DOUGLASS	LAYOUT BY D. OVADIA	CHECKED A. NOWAK	MOHSEN MOHSENI PROJECT ENGINEER	POST MILES R50.40	
QUANTITIES	BY E. IEONG	CHECKED M. KARLEN	SPECIFICATIONS BY J. RUDOLPH/G. MATESIC	PLANS AND SPECS COMPARED J. RUDOLPH/G. MATESIC			

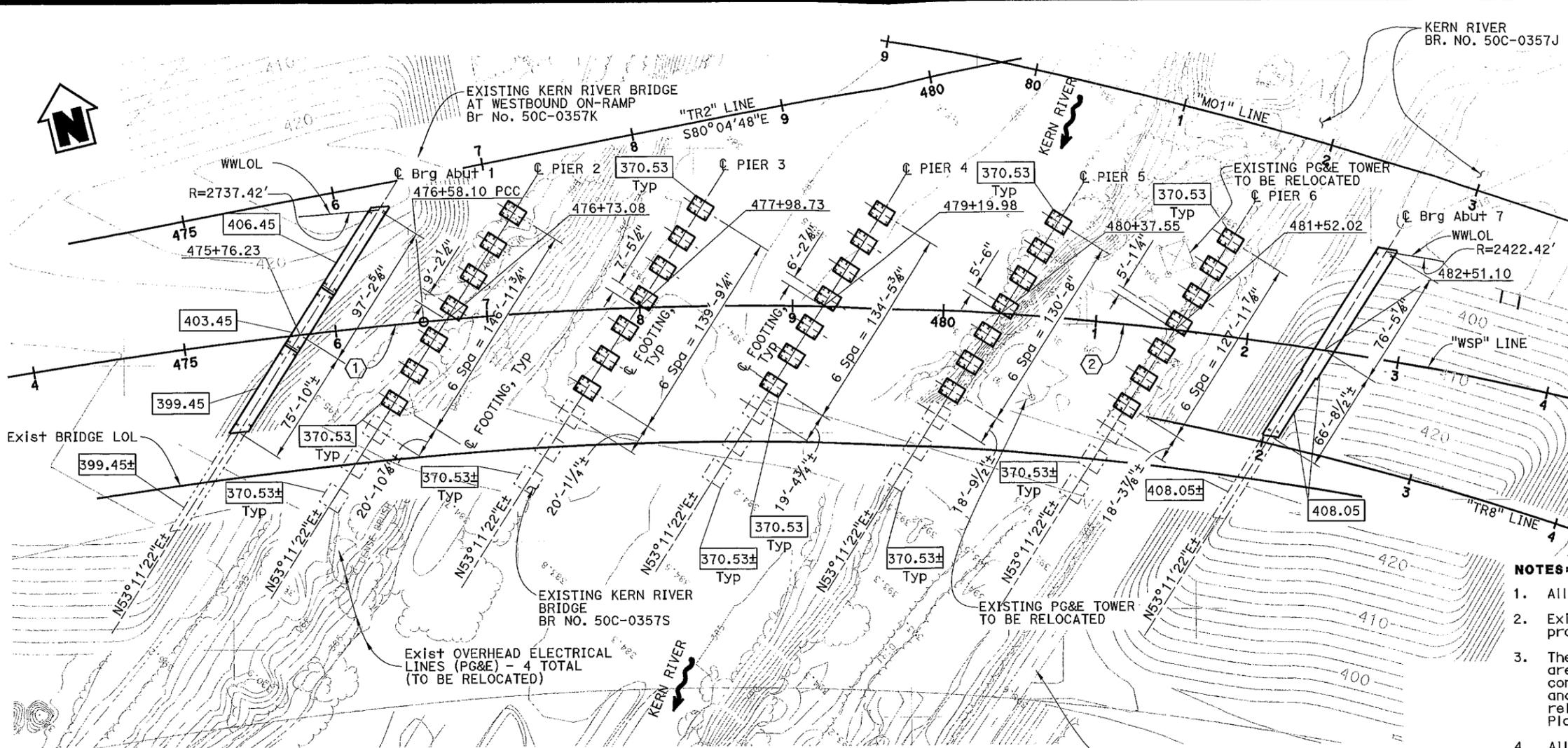
SIGN OFF DATE: _____
 DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 03/14/12)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 UNIT: 1477
 PROJECT NUMBER & PHASE: 0615000261-4 CONTRACT NO.: 48463
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES: 01/10/13, 02/26/13, 10/26/13, 07/01/15
 SHEET 2 OF 45
 FILE => 50C-0357S-a-gp02.dgn

TIME PLOTTED => 10:38:20 AM
USER NAME => r002421c DATE PLOTTED => 9/28/2015

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		

07/01/15
 REGISTERED CIVIL ENGINEER DATE
 E. IEONG
 No. 76455
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

CITY OF BAKERSFIELD
 1501 Truxtun Ave
 Bakersfield, CA 93301
 PARSONS
 2201 Dupont Drive, Suite 200
 Irvine, CA 92612



- LEGEND:**
- XXX.XX Indicates bottom of footing elevation
 - H Indicates vertical pile
 - ↖ Indicates battered pile
 - Indicates Exist Structure

- NOTES:**
- All piles not shown.
 - Exist contours shown, see "Road Plans" for proposed grading.
 - The types and locations of all utilities are provided for information only. The contractor shall verify all existing utilities and notify utility agencies prior to any removal, relocation or new construction. See "Utility Plans" for information not shown.
 - All utilities in conflict with foundations to be relocated.
 - For "CURVE DATA", see "GENERAL PLAN NO. 1" sheet.

HYDROLOGIC SUMMARY

Drainage area: 2500 square miles

FREQUENCY (YEARS)	DESIGN FLOOD	BASE FLOOD	OVERTOPPING FLOOD
50 YR	7,000	15,000	29,000
100 YR			
500 YR			

WATER SURFACE (Elevation at bridge)
 390.14 392.39 395.84

Flood plain data are based upon information available when the plans are prepared and are shown to meet Federal Requirements. The accuracy of said information is not warranted by the State, County, City, or Consultants and interested or affected parties should make their own investigations.

PLAN
 1" = 40'

BENCHMARK

NAME	NORTHING (ft)	EASTING (ft)	Elev (ft)	DESCRIPTION
B_55_RESET	2,321,720.09	6,262,589.82	402.25	3 3/4" USCGS brass disk "B55 RESET 1946" at the back of sidewalk on the west side of Union Ave, approximately 180 feet south of California Ave.
U364	2,308,049.10	6,262,531.15	378.88	3 3/4" B.D. "U_364_RESET 1972"

SURVEY CONTROL:

Horizontal control for this survey is based on the California Coordinate System (CCS83), Zone 5, 2004.00 Epoch relative to the North American Datum of 1983 (NAD83).
 Vertical control is based on the North American Vertical Datum of 1988 (NAVD88).

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PILE DATA TABLE

LOCATION	PILE TYPE	NOMINAL RESISTANCE (Kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)	NOMINAL DRIVING RESISTANCE (Kips)
		COMPRESSION	TENSION			
Abut 1	HP 14x89	400	N/A	351(a); 402(c) 377(d)	351	400
PIER 2	HP 14x89	280	0	313(a); 347(c) 340(d)	313	280
PIER 3	HP 14x89	280	0	313(a); 347(c) 340(d)	313	280
PIER 4	HP 14x89	280	0	313(a); 347(c) 340(d)	313	280
PIER 5	HP 14x89	280	0	313(a); 347(c) 340(d)	313	280
PIER 6	HP 14x89	280	0	313(a); 347(c) 340(d)	313	280
Abut 7	HP 14x89	400	N/A	353(a); 403(c) 378(d)	353	400

- NOTES:**
- Design tip elevations are controlled by: (a) Compression, (b) Tension, (c) Settlement, and (d) Lateral Load.
 - There are no design tip elevations for Tension at abutments.
 - The specified tip elevations shall not be raised above the design tip elevations for settlement and lateral load.

06/01/15 APPROVAL DATE
 E. IEONG REGISTERED PROFESSIONAL ENGINEER

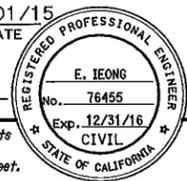
SCALE: 1"=40'	VERT. DATUM NAVD88	HORZ. DATUM NAD83	DESIGN BY E. IEONG	CHECKED G. DOUGLASS	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION MOHSEN MOHSENI PROJECT ENGINEER	BRIDGE NO. 50C-0357S	KERN RIVER BRIDGE (WIDEN) FOUNDATION PLAN
PHOTOGRAMMETRY AS OF: 8/12	ALIGNMENT TIES	DESIGN BY S. WEIGHT	CHECKED G. DOUGLASS	POST MILES R50.40			
SURVEYED BY P. SOMAS	DRAFTED BY P. SOMAS	QUANTITIES BY K. HADLEY	CHECKED M. KARLEN				
FIELD CHECKED BY P. SOMAS	CHECKED BY P. SOMAS						

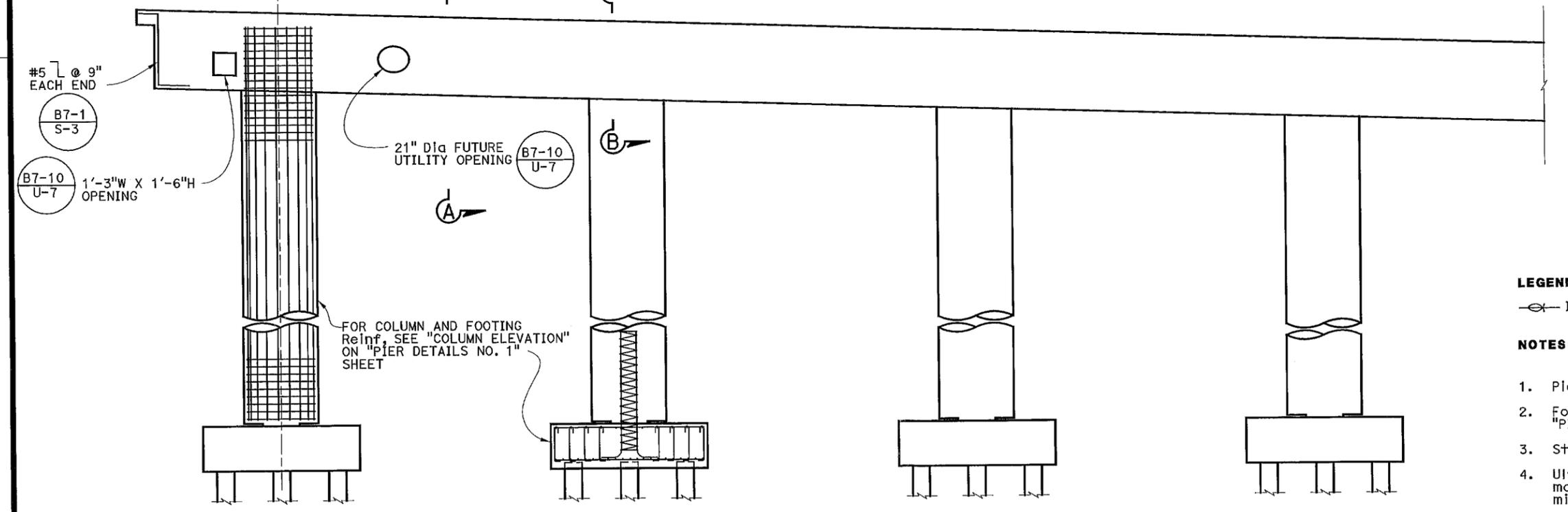
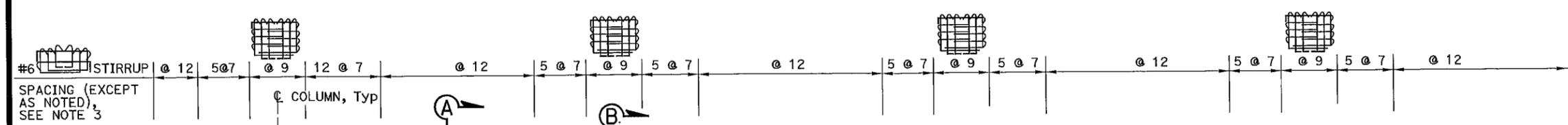
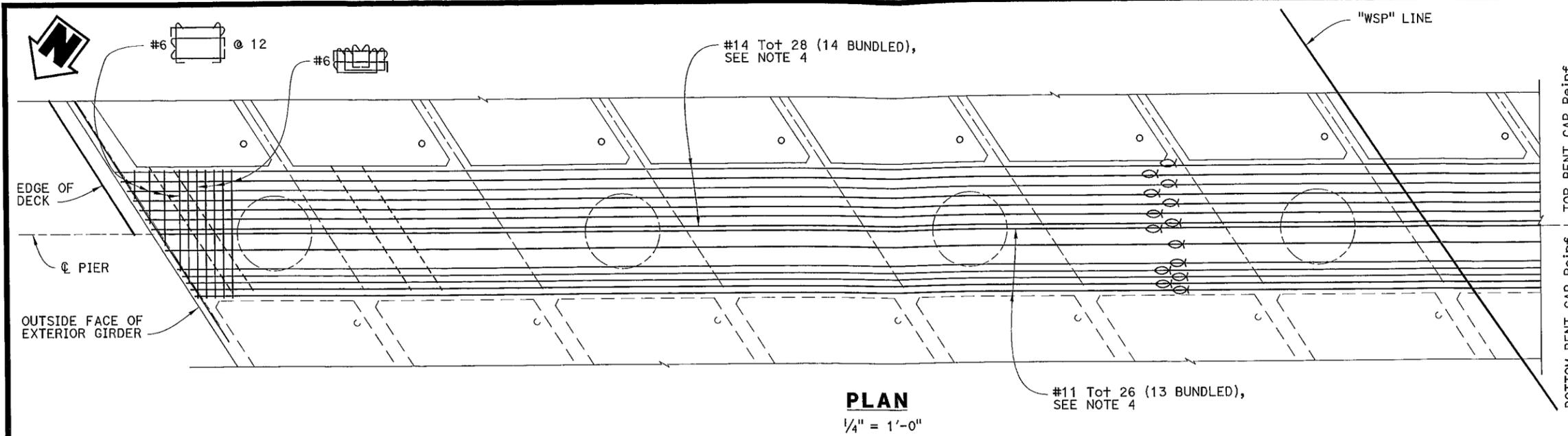
UNIT: 1477
 PROJECT NUMBER & PHASE: 0615000261-4 CONTRACT NO.: 48463
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
01/28/15 03/20/15 10/08/15 01/01/15	4	45

FOUNDATION PLAN SHEET (ENGLISH) (REV. 03/14/12)
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 FILE => 50C-0357S-e-fdp101.dgn

Attachment C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		
REGISTERED CIVIL ENGINEER			DATE	07/01/15	
PLANS APPROVAL DATE					
CITY OF BAKERSFIELD 1501 Truxtun Ave Bakersfield, CA 93301					
PARSONS 2201 Dupont Drive, Suite 200 Irvine, CA 92612					



- LEGEND:**
 -⊗- Indicates vertically bundled bars
- NOTES:**
1. Pier 2 shown, all other piers similar.
 2. For "SECTION A-A" and "SECTION B-B", see "PIER DETAILS NO. 2" sheet.
 3. Stirrups to be placed normal to ϕ Pier.
 4. Ultimate butt splice shall be used for main cap Reinf and shall be staggered a minimum of 20'-0" from each other.

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ELEVATION
 1/4" = 1'-0"

DESIGN OVERSIGHT	DESIGN	BY E. JEONG	CHECKED G. DOUGLASS	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	50C-0357S	KERN RIVER BRIDGE (WIDEN) PIER LAYOUT NO. 1
	DETAILS	BY A. SEGURA	CHECKED G. DOUGLASS		PROJECT ENGINEER	POST MILES	
SIGN OFF DATE	QUANTITIES	BY E. JEONG	CHECKED M. KARLEN	UNIT: 1477	PROJECT NUMBER & PHASE: 0615000261-4 CONTRACT NO.: 48463		REVISION DATES
DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES	03/20/13 03/20/13 07/01/15
FILE => 50C-0357S-1-p01_1e01.dgn							SHEET 17 OF 45

USFRNAME => 0007471C DATE PLOTTED => 9/28/2015 TIME PLOTTED => 10:40:50 AM

Attachment C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		

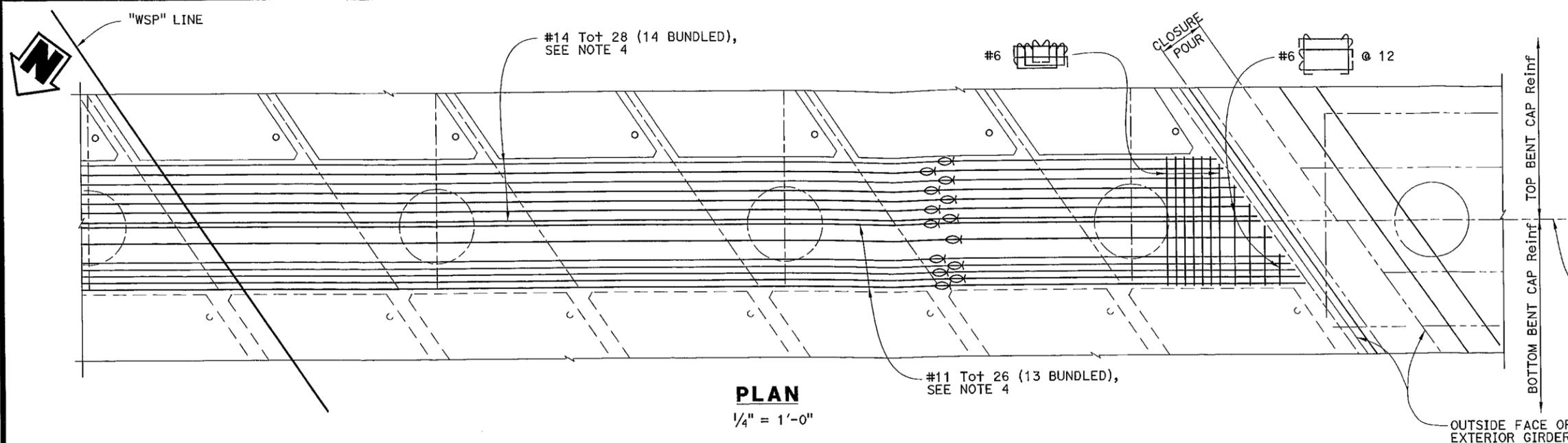
REGISTERED CIVIL ENGINEER
 E. IEONG
 No. 76455
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 07/01/15
 REGISTERED CIVIL ENGINEER DATE

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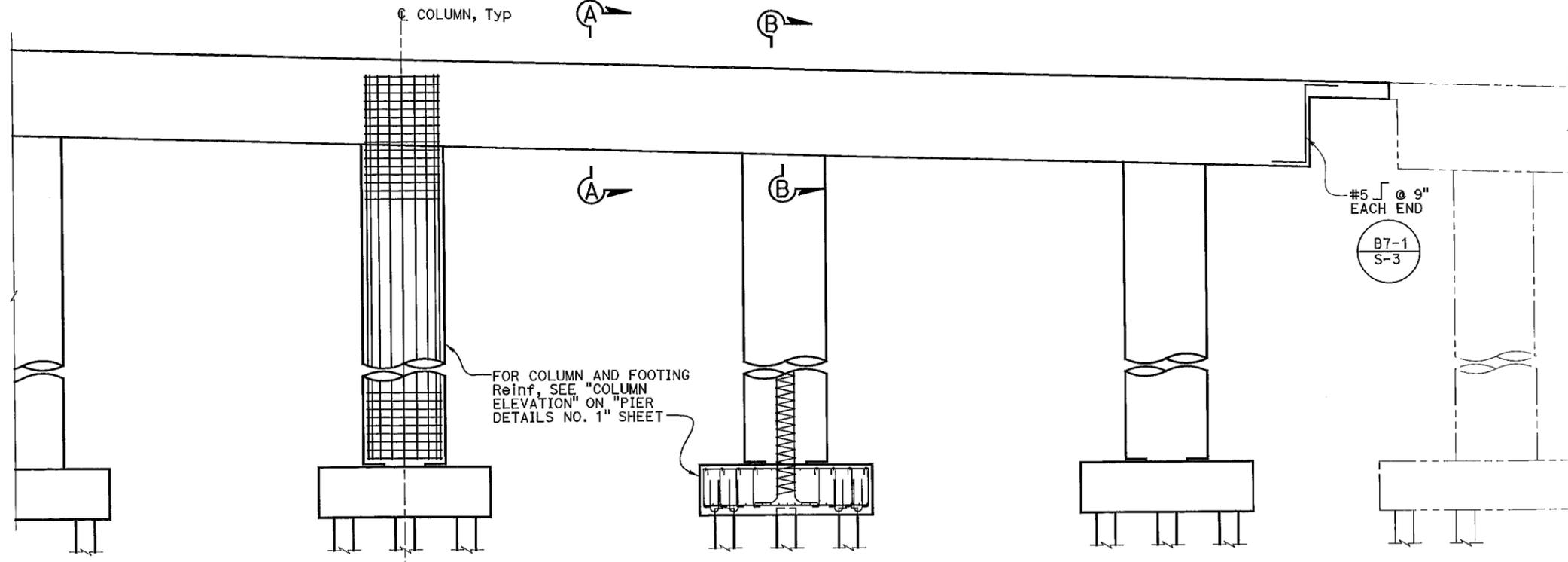
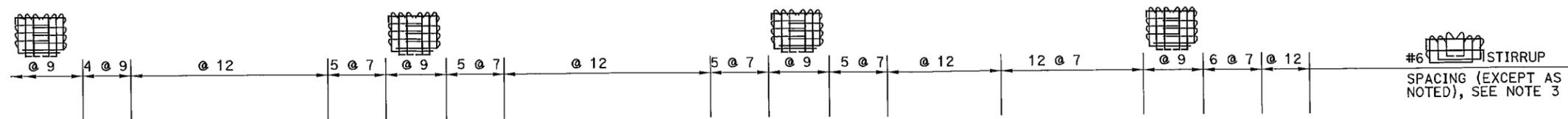
CITY OF BAKERSFIELD
 1501 Truxtun Ave
 Bakersfield, CA 93301

PARSONS
 2201 Dupont Drive, Suite 200
 Irvine, CA 92612



PLAN

1/4" = 1'-0"



ELEVATION

1/4" = 1'-0"

LEGEND:

⊗ Indicates vertically bundled bars

NOTES:

- Pier 2 shown, all other piers similar.
- For "SECTION A-A" and "SECTION B-B", see "PIER DETAILS NO. 2" sheet.
- Stirrups to be placed normal to \O Pier.
- Ultimate butt splice shall be used for main cap Reinf and shall be staggered a minimum of 20'-0" from each other.

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT	DESIGN	BY E. IEONG	CHECKED G. DOUGLASS	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	50C-0357S	KERN RIVER BRIDGE (WIDEN) PIER LAYOUT NO. 2
	DETAILS	BY A. SEGURA	CHECKED G. DOUGLASS		PROJECT ENGINEER	POST MILES	
SIGN OFF DATE	QUANTITIES	BY E. IEONG	CHECKED M. KARLEN	UNIT: 1477	PROJECT NUMBER & PHASE: 0615000261-4	CONTRACT NO.: 48463	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 05/28/15, 10/28/15, 07/01/15 SHEET 18 OF 45

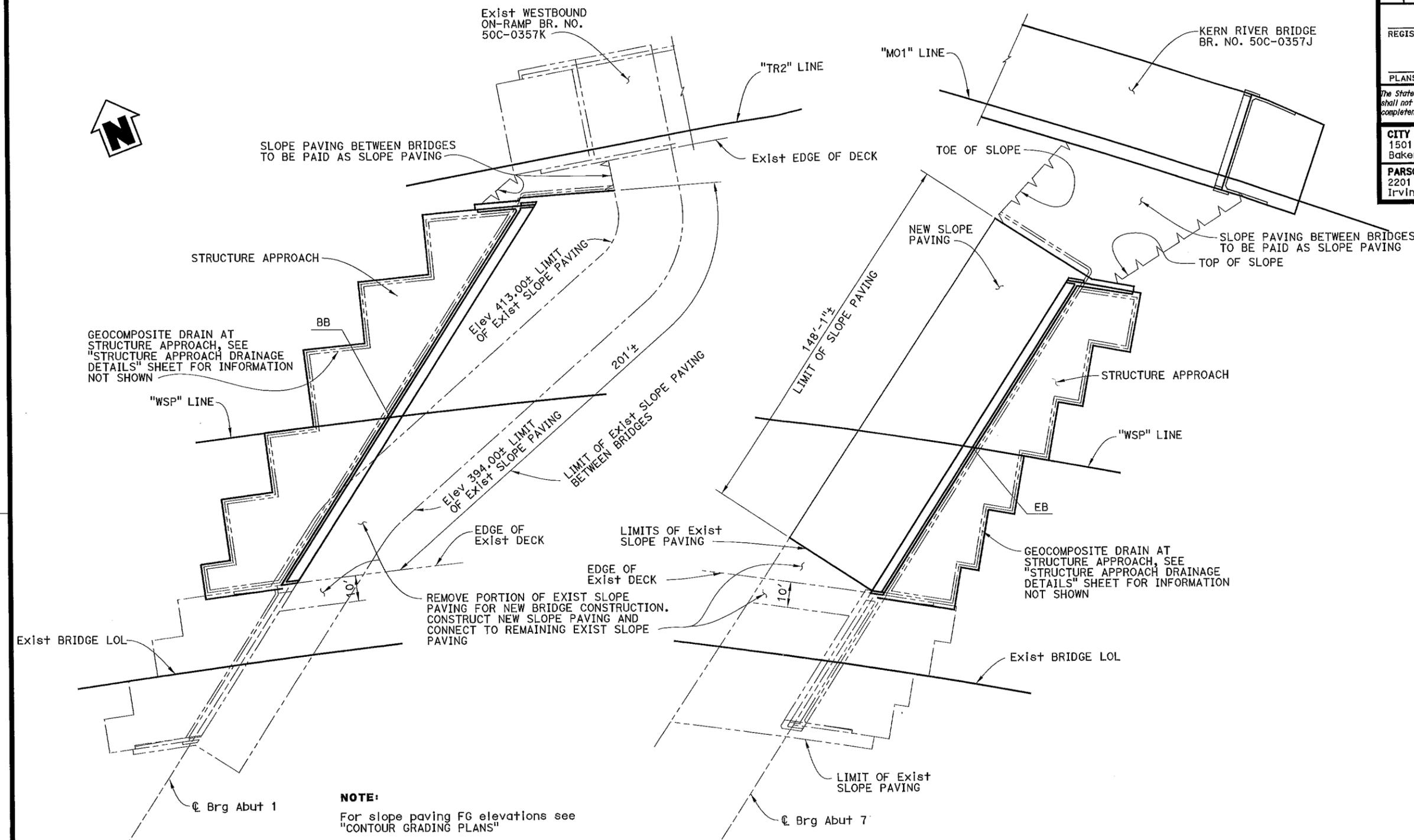
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => 50C-0357S-1-p01_1a02.dgn

USERNAME => B002421C DATE PLOTTED => 8/28/2015 TIME PLOTTED => 10:40:59 AM

Attachment C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
06	Ker	58	R49.1/R50.7		
			07/01/15		
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
CITY OF BAKERSFIELD 1501 Truxtun Ave Bakersfield, CA 93301					
PARSONS 2201 Dupont Drive, Suite 200 Irvine, CA 92612					

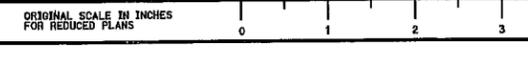


NOTE:
For slope paving FG elevations see "CONTOUR GRADING PLANS"

LIMITS OF SLOPE PAVING
1" = 20'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

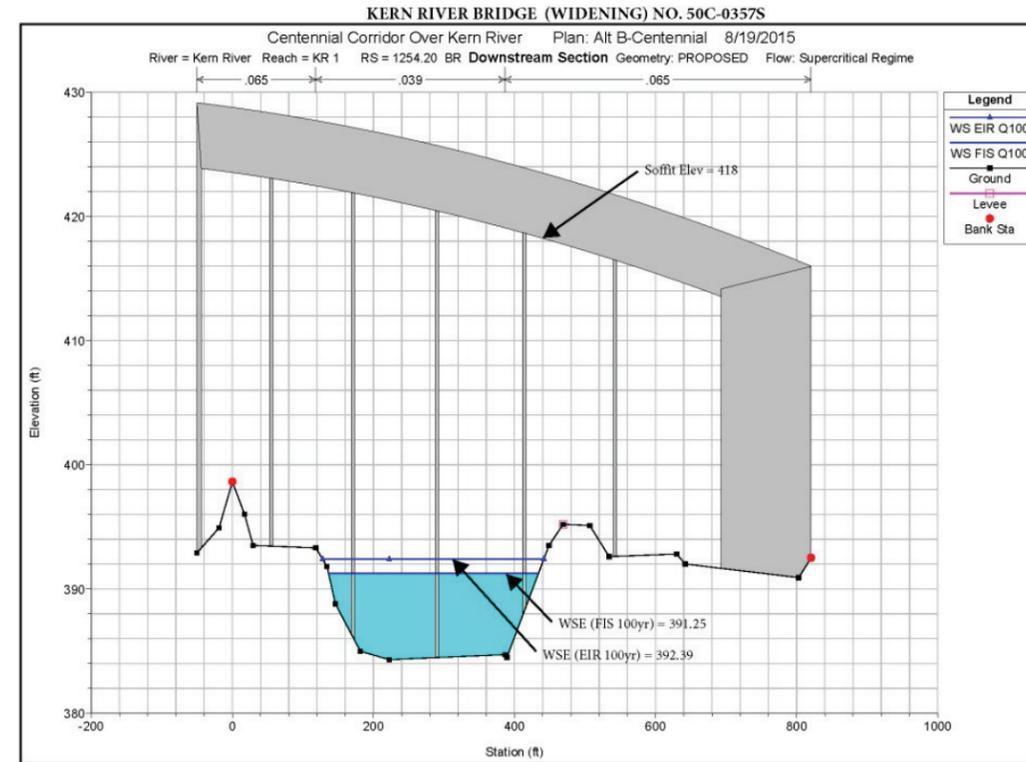
DESIGN OVERSIGHT	DESIGN BY E. IEONG	CHECKED G. DOUGLASS	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 50C-0357S	KERN RIVER BRIDGE (WIDEN) MISCELLANEOUS DETAILS
SIGN OFF DATE	DETAILS BY A. SEGURA	CHECKED G. DOUGLASS	PROJECT ENGINEER MOHSEN MOHSENI	POST MILES R50.40	
DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)	QUANTITIES BY E. IEONG	CHECKED M. KARLEN	UNIT: 1477 PROJECT NUMBER & PHASE: 0615000261-4 CONTRACT NO.: 48463_	REVISION DATES	SHEET 37 OF 45



DISREGARD PRINTS BEARING EARLIER REVISION DATES

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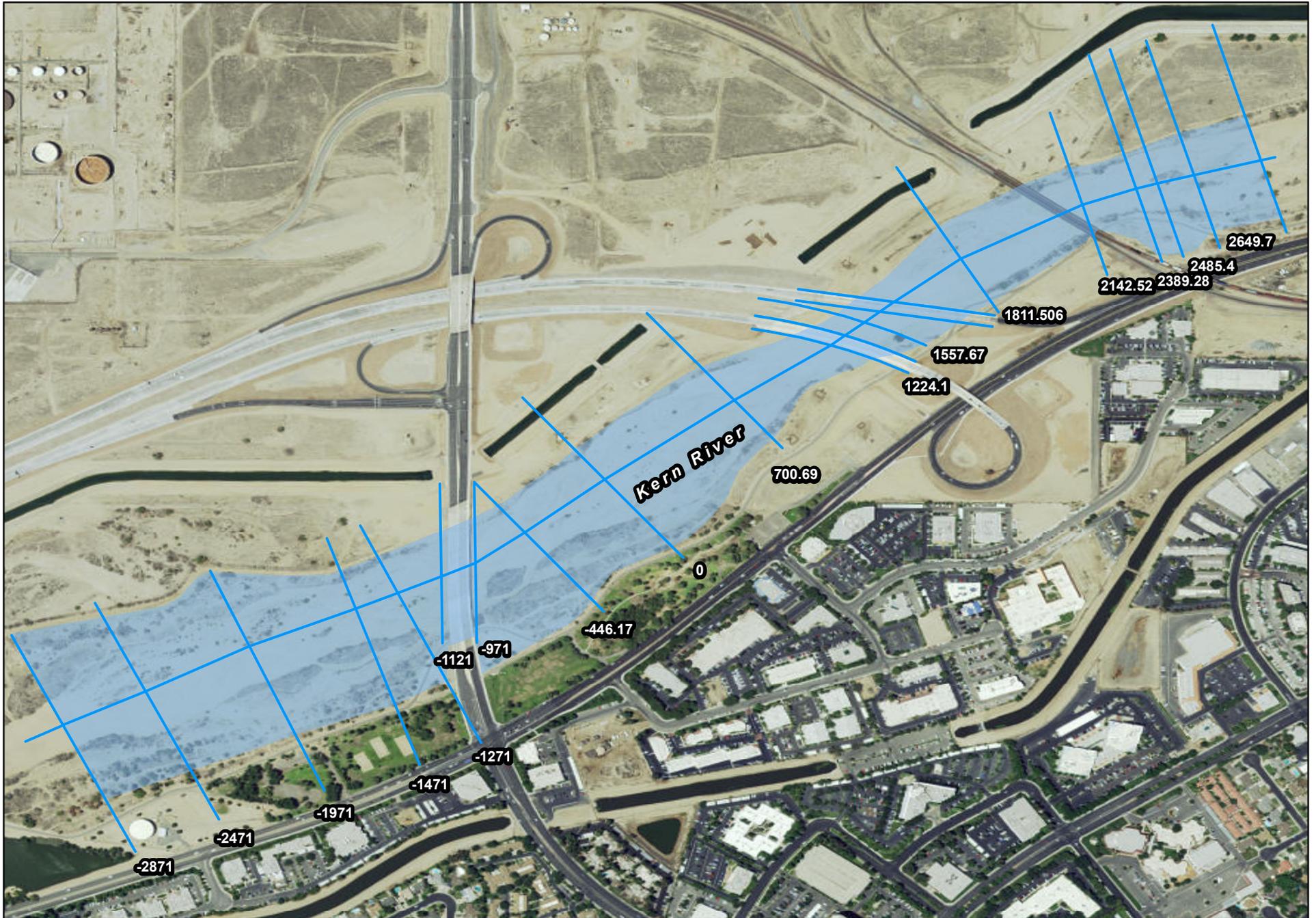
Figure 2 - KERN RIVER BRIDGE (WIDENING) NO. 50C-0357S



Design Information		Existing (Pre-Construction) at RS 1224.10				Future (Post-Construction) at RS 1224.10				Δ Existing to Future	
		Appr. Soffit Elev (ft)	100-yr WSE (ft)	100-yr Velocity (fps)	Freeboard 100-yr (ft)	Appr. Soffit Elev (ft)	100-yr WSE (ft)	100-yr Velocity (fps)	Freeboard 100-yr (ft)	Δ WSE (ft)	Δ Velocity (fps)
Bridge No. 50C-0357S (Kern River Bridge Widening)	100-yr Design Flow (cfs)										
FIS Flow	10,200	418	391.25	5.91	27	418	391.25	5.91	27	0	0
EIR Flow	15,000	418	392.41	7.19	26	418	392.39	7.20	26	-0.02	0.01

FIS: FEMA Flood Insurance Rate Study (2008)

EIR: provided by Central Valley Flood Protection Board (CVFPB)



KERN RIVER WATER SURFACE ELEVATION SUMMARY

Station	Q ₁₀₀ (cfs)	W.S. Elev 100-year (ft)			ΔElev (ft)	
		Pre-Proj	With Falsework	Post-Proj	Pre-Proj vs With Falsework	Pre- vs Post
2950	15,000	395.10	395.51	395.16	0.41	0.06
2649.7	15,000	394.67	395.15	394.74	0.48	0.07
2485.4	15,000	394.63	395.12	394.70	0.49	0.07
2389.28	15,000	394.62	395.11	394.68	0.49	0.06
2142.52	15,000	394.46	394.97	394.53	0.51	0.07
1811.506	15,000	393.84	394.51	393.98	0.67	0.14
1607.37	Bridge					
1557.67	15,000	393.59	394.15	393.67	0.56	0.08
1527.865	WB Off-Ramp Bridge					
1498.17	15,000	393.48	394.05	393.55	0.57	0.07
1388.25	15,000	393.41	-	-	-	-
1293.24	15,000	392.87	-	-	-	-
1254.2	Kern River (Widened) Bridge					
1224.1	15,000	392.47	392.46	392.46	-0.01	-0.01
700.69	15,000	391.91	391.91	391.91	0	0
0	15,000	391.43	391.43	391.43	0	0
-446.17	15,000	391.12	391.12	391.12	0	0
-971	15,000	390.75	390.75	390.75	0	0
-1046	Mohawk Bridge					
-1121	15,000	390.32	390.32	390.32	0	0
-1271	15,000	390.17	390.17	390.17	0	0
-1471	15,000	390.00	390.00	390.00	0	0
-1971	15,000	389.68	389.68	389.68	0	0
-2471	15,000	389.38	389.38	389.38	0	0
-2871	15,000	389.17	389.17	389.17	0	0